

# NMEC Working Group: Meeting #3 Notes

## NMEC Working Group: Meeting #3

**Tuesday, June 4, 2019 from 1:00-5:00pm in the Golden Gate Room at CPUC**

**Hosted by: CA Public Utilities Commission**

**Facilitated by: Michelle Vigen Ralston, Common Spark Consulting**

These notes are broken into two sections:

- 1) a narrative Meeting Summary, providing an overview of topics discussed, and
- 2) a set of Recorded Comments and Discussion, capturing the more detailed comments provided by stakeholders both verbally and in the chat box.

*For questions about this meeting, the Working Group process, or how to get involved, please contact Michelle Vigen, Common Spark Consulting at [michelle@common-spark.com](mailto:michelle@common-spark.com).*

## Meeting Summary

This meeting served as a working meeting to review recommendations discussed to date for the use of normalized metered energy consumption (NMEC) data within a population. Michelle Vigen Ralston from Common Spark Consulting reviewed previous meeting outcomes and meeting participants worked in small groups to confirm and/or refine recommendations, clarify guidance, and identify outstanding issues. Small groups reported back on their discussions and outcomes at the end of the day.

Common Spark Consulting will take the cumulative meeting outcomes and develop a draft report to present to Working Group participants and then finalize to submit to PG&E and Commission staff. Commission staff will consider the report when developing the NMEC ruleset to address population-level NMEC-based programs. Once the ruleset update is drafted, parties will have an opportunity to submit comments on the record before the rules are finalized.

NOTE: The recommendations below capture the discussion among the working group. Proposals were not presented to a vote, and not formally tested for consensus. They are the outcome of several meetings and work spanning several weeks and do reflect the best practices and knowledge base of a diverse stakeholder group inclusive of the program administrators, third party implementers, experts and evaluators and others.

## Meetings 1 and 2; Small Group Work Recap

The first and second working group meetings were held on May 6 and May 15. During the meetings, the group discussed priority buckets of issues to address in the short-term, issues to address in the next round, and issues that should be discussed later. The following priority buckets emerged (with links to each group's collaborative Google Documents with extensive views and comments):

1. [Defining "Population NMEC" and Aggregate Population Eligibility](#)

2. [Modeling: Baseline, Normalization, Comparison Groups, Exogenous Factors, Non-Routine Events, and Outlier Sites](#)
3. [Process, Review, Roles, and Evaluation](#)

On May 29 and 30, small groups held calls on the priority bucket issues and collaboratively documented draft recommendations. Links to the documents are embedded above.

## June 4 Small Group Sessions

For two sessions (approximately 45 minutes long each), working group attendees broke into small groups organized in the topics above. Before breaking into groups, Common Spark Consulting presented proposed recommendations based on the various proposals that received the most attention and agreement in the Google Docs and conference calls. They represented high-level proposals and draft recommendations that each small group should work to strengthen, clarify, and amend if necessary.

## Small Group Sessions – Report Outs

After the small groups met, the working group reconvened to summarize their discussions of the original “straw” recommendations they considered. The text below presents each recommendation proposed to each group by Common Spark Consulting, and the observations made by each small group in its report-out.

### Defining Population NMEC and Aggregate Population Eligibility

#### **Topic #1: Definition of Population NMEC**

**Original Straw-language:** *Population NMEC is an energy savings calculation approach in which results are based on energy usage data observed at the meter, and aggregated across a portfolio/program/population rather than a modeled engineering forecast or deemed value.*

#### **Discussion/Outcome:**

Participants were generally in agreement with the definition and related characteristics of population NMEC programs (see slide 11). There was some discussion of the possibility to change “population NMEC” to “aggregated NMEC” but no decision was made.

#### **Topic #2: Population/Aggregation Eligibility**

**Original Straw language:** *“To use a Population NMEC approach, the number of sites should be sufficient to have fraction savings uncertainty no more than +/- 50% at a 90% confidence level.”*

#### **Discussion/Outcome:**

Participants generally supported the use of fractional savings uncertainty as a metric, although it was noted that:

- The ASHRAE FSU formula cannot be used for hourly data due to autocorrelation, so this should be applied to usage data at a daily or lower time resolution
- FSU will need to be forecast before implementers launch their programs, so implementers will need reasonable ways to estimate the number of sites, projected savings per site, and projected baseline model error per site.

Some participants thought that a 50% fractional savings uncertainty (FSU), as defined by ASHRAE Guideline 14, was too broad and, therefore, insufficient for use in forecasting and ratepayer risk management. Options to mitigate this issue were to (1) prescribe a different, lower FSU threshold; (2) avoid setting a threshold at this time and have the CPUC evaluate specific proposals; or (3) define “population” by a minimum number of sites.

**Revised recommendation:**

1. *To use a Population NMEC approach, the forecasted number of sites, projected savings, and projected baseline model error should be sufficient to have fractional savings uncertainty (FSU) no more than +/- 25% at a 90% confidence level, otherwise an exception should be sought.*
2. *Re-evaluate the 25/90 FSU after NMEC programs have been implemented and operational for one year*
3. *Specify that this eligibility threshold applies only to population-level NMEC and not site-level NMEC.*
4. *Use only daily or monthly, and not hourly, data when estimating the FSU*
5. *Order the PAs contract conduct an EM&V study on the reasonableness of this threshold and alternate eligibility options.*
6. *Allow implementers and/or program administrators to propose programs with a higher FSU or lower confidence level, which would be subject to additional review by Commission staff. If such a program is proposed, implementers and/or program administrators would need to demonstrate how the threshold addresses risks to realizing savings.*

## Modeling and Methodology

### **Topic #1: Model/Methodology Transparency and Access**

**Original Straw language:** *“Any methodology including calculations should be available for verification, replicability, and evaluation.”*

**Discussion/Outcome:**

The group presented a revised recommendation, discussed below.

Participants recommended that, in addition to public or open-source, methodology needs to be “well-documented and reproducible.” This covers raw data, cleaned data, the method to process raw data to cleaned data, documentation thereof, underlying code to calculate savings, step-by-step documentation thereof, related assumptions or calculation engines, and savings calculation results. All should be available to all counter-parties within a program (implementer, program administrator, CPUC, and evaluators). All documentation would be sufficiently detailed to allow another M&V practitioner to reproduce it.

**Revised Recommendation:**

*Any methodology including calculations used should be available for verification, replication, and evaluation. Methodology may be public or open-source, or at least available for the aforementioned verification activities. Ideally, the methodology would have demonstrated performance based on a generally accepted testing methodology.*

### **Topic #2: Measurement and Verification (M&V) Plan and Template**

**Original straw-language:** *“Use a basic template to ensure every M&V plan that is submitted with the Implementation Plan includes certain aspects, leveraging the site-level NMEC rulebook as general guidance for what to include.”*

**Discussion/Outcome:**

Participants were unsure about the need to use of an M&V plan template, because the level of detailed needed in an adequate M&V plan makes it difficult to create a template. However, some participants pointed out that if M&V plans followed a standard format and addressed standard topics, they would be easier for reviewers to evaluate.

Additionally, participants were not sure it made sense to use of the site-level Rulebook as a guide because some topics that site- and population-level M&V plans need to address may differ. Participants recommended that program administrators and/or implementers should describe how raw data will be processed into a result. The M&V plan should also discuss why the program is appropriate for population-level NMEC, and why the calculation methodology and variables used for normalization are appropriate for the program and type of sites treated.

Contents of an M&V plan were discussed under Recommendation #3.

**Topic #3: Thresholds for Population-level NMEC Programs:**

**Original straw-language:** *“Require consideration of certain specifications, do not establish threshold requirements.”*

**Discussion/Outcome:**

In addition to the outlined criteria to consider in an M&V plan (see slide 14), the small group proposed that the M&V plan should focus discussion on program risks and how the M&V approach, modeling, and other activities, addresses those risks. For instance, the M&V plan should discuss the whether and why payable savings could differ from claimable savings (e.g., due to participant disqualification or outlier sites; net versus gross savings) and how that risk would be addressed via program activities or program design (e.g., site exclusion protocol established up-front, rules on eligibility, use of a comparison group or other basis for adjustments). Additionally, M&V plans may address risks related to effective useful life estimates and the potential impact to forecasted lifetime savings.

## Process and Roles

### **Topic #1: Establish Terms and Definitions for Savings Terms**

**\*\*Note: This is primarily for internal working group clarity, not necessarily for CPUC adoption.**

Overall, the program administrators need clarity on how to report and claim savings for population-NMEC programs. The small group discussed the following refinements to definitions.

- **Ex Ante Forecast Savings:** *Submitted by the implementer or the program administrator to the regulator for planning purposes prior to program launch. Includes measure-level savings values and installation rates to demonstrate how the program would achieve the projected impacts. Best estimate based on DEER values, engineering estimates, information from prior program years, etc.*

- *Ex Ante Reported and Claimed Savings - After program launch, savings reported to the CPUC prior to formal evaluation, measurement, and verification (EM&V). Savings would be reported in one line in program administrators' Quarterly Reports.*
  - *In the first year after installation but before one-year of post-installation data are available, potential OPTIONS for CPUC to consider for PA-reported & claimed savings may include various approaches like:*
    - *Quarterly reporting (and annual claim?) based on the forecasted values used for planning purposes - possibly discounted by the FSU; or based on interim NMEC results and expenditures*
    - *Hold NMEC savings (& potentially costs) until one full year of post-installation data are available, on rolling basis - note that current reporting requirements prescribe that program administrator costs are reported in the year they are incurred. If a savings claim is held while program money is spent and reported, program administrators' cost-effectiveness would be inaccurate, and savings achieved vs. PA annual goals would also be distorted.*
    - *Set reporting carve-out for NMEC programs for interim period until long-term process is identified*
    - *After one-year of post-installation data are available, savings claims are based on the NMEC model.*
    - *This is an area for further guidance from CPUC to ensure that the reporting/claims process does not dis-incentivize PAs from using NMEC methods to claim savings.*

The small group did not discuss specific edits to the definition of “Payable Savings” but did discuss cases where payable might differ from claimable savings. There was also clarification from ED staff that, *in the 3P context*, payable savings refers to payments from PAs to 3P implementers (not customer incentives). For instance, claimable savings may differ if sites within a population are disqualified (e.g., due to non-routine events) or if claimed savings are only net savings. Additionally, it was clarified that current process does not require the CPUC to approve M&V plans.

There was no discussion or objection to the definition of Ex Post (Evaluated) Savings (see slide 15).

## **Topic #2: Data**

**Original Straw-language:** “Move towards common data sets being used across different savings determinations.”

### **Discussion/Outcome:**

There was broad agreement that stakeholders need to move towards the use of common data sets, and that Program Administrators should maintain and manage the data on each of their programs (including usage and other data). Data would flow from the implementer forward through the program chain to the evaluator (as opposed to relying on the evaluator's data).

## **Topic #3: Pay-for-Performance**

**Original Straw-language:** “Encourage, but do not require Pay for Performance”

### **Discussion/Outcome:**

There was agreement to encourage pay for performance but there was not consensus on whether the CPUC should prescribe that a minimum proportion (threshold not discussed) of programs must be pay

for performance (or payment to implementers must be based on energy savings determined at the meter). Meeting participants clarified that the broader issue related to this recommendation is to minimize program risk and that increasing pay for performance program designs would decrease risk to ratepayers. Overall, implementers and program administrators should be considering which parties are subject to risks of overspending for savings or underperformance of realized savings and how those risks could be minimized. There was clarification that, *in the 3P program context*, “pay-for-performance” refers to paying 3P implementers based on performance (and does not refer to customer incentives or other program design issues).

## Next Steps

- Common Spark Consulting will consolidate input collected throughout the Technical Work Group process into a draft report.
- On June 12, from 1:00-2:00pm, Common Spark Consulting will present high-level outcomes in an NMEC Working Group webinar.
- Common Spark Consulting will then finalize the report for PG&E and the CPUC, incorporating final feedback from NMEC Working Group participants.
- Commission staff will consider the report’s recommendations when developing the draft ruleset for population-level NMEC programs.
- Parties will have an opportunity to comment on the draft ruleset on the record before population-NMEC rules are finalized.